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Stylesheet Version v1.1.1

Claims

[c1] 1. A method for producing a mold tool to achieve a reduced gloss appearance on a surface of a polymeric component produced with the tool, the method comprising:
masking a portion of a surface of the tool with a plurality of characters arranged in a character pattern; and
applying a caustic material to the tool surface, thereby removing material from an unmasked portion of the tool surface and leaving the masked portion raised above the unmasked portion and forming a tool surface pattern generally matching the character pattern, the tool surface pattern including a plurality of raised portions, each of the raised portions having a maximum width, the average maximum width of the raised portions being less than 350 μm, the tool surface pattern thereby providing a reduced gloss appearance on a corresponding surface of a polymeric component produced with the tool.

[c2] 2. The method of claim 1, wherein each of the raised portions has a height, and the average height of the raised portions is approximately 40 μm.

[c3] 3. The method of claim 1, wherein the tool surface pat-

tern has an average spacing of less than 450 μm, the spacing of the tool surface pattern being defined as the distance from an approximate center of one raised portion to an approximate center of an adjacent raised portion.

[c4] 4. The method of claim 1, wherein the tool surface pattern has a raised portion density greater than 6000 raised portions per square inch.

[c5] 5. The method of claim 1, wherein the raised portions generally cylindrical and each of the raised portions has a maximum width in the range of 225 μm to 275 μm.

[c6] 6. The method of claim 1, further comprising providing the tool surface with an aesthetic pattern configured to provide a corresponding aesthetic pattern to a corresponding surface of a polymeric component produced with the tool.

[c7] 7. The method of claim 1, further comprising:
forming in a surface of a metallic plate a plurality of cavities in a pattern corresponding to the character pattern;
at least partially filling at least some of the cavities with spreadable material;
applying paper to the metallic plate over the at least partially filled cavities; and

removing the paper from the metallic plate, thereby removing at least some of the spreadable material from the at least partially filled cavities, and
wherein masking a portion of the tool surface includes disposing the paper on the tool surface such that the spreadable material on the paper contacts the tool surface.

[c8] 8. The method of claim 7, wherein forming the cavities in the surface of the metallic plate includes:
masking a portion of the surface of the metallic plate, thereby leaving a portion of the metallic plate surface unmasked, the unmasked portion of the metallic plate surface being configured in the pattern corresponding to the character pattern, and
applying a caustic material to the unmasked portion of the metallic plate surface such that material is removed at a rate of approximately 25 μm per three minutes.

[c9] 9. The method of claim 7, wherein forming the cavities in the surface of the metallic plate includes laser etching the cavities.

[c10] 10. The method of claim 7, wherein each of the cavities has a maximum depth, and the average maximum depth of the cavities is approximately 37 μm.

[c11] 11. The method of claim 1, further comprising:
blasting the tool surface with an abrasive material at least twice after the caustic material is applied, each subsequent blasting using a smaller abrasive size than the previous blasting.

[c12] 12. The method of claim 11, wherein blasting the tool surface includes blasting the tool surface a first time using a 60 mesh size abrasive, blasting the tool a second time using an 80 mesh size abrasive, and blasting the tool a third time using a 240 mesh size abrasive.

[c13] 13. A method for producing a polymeric component having a surface with a reduced gloss appearance, comprising:
providing a mold tool having a surface including a plurality of raised portions configured in a tool surface pattern, each of the raised portions having a maximum width, the average maximum width of the raised portions being less than 350 μm; and
disposing a polymeric material within the mold tool such that at least some of the polymeric material contacts the tool surface, thereby forming in the polymeric material a corresponding surface having a pattern generally matching the tool surface pattern and having a reduced gloss appearance.

[c14] 14. The method of claim 13, wherein each of the raised portions has a height, and the average height of the raised portions is approximately 40 μm.

[c15] 15. The method of claim 13, wherein the tool surface pattern has an average spacing of less than 450 μm, the spacing of the tool surface pattern being defined as the distance from an approximate center of one raised portion to an approximate center of an adjacent raised portion.

[c16] 16. The method of claim 13, wherein the tool surface pattern has a raised portion density greater than 6000 raised portions per square inch.

[c17] 17. The method of claim 13, wherein the raised portions are generally cylindrical and each of the raised portions has a maximum width in the range of 225 μm to 275 μm.

[c18] 18. A polymeric component having a reduced gloss appearance, the polymeric component comprising:
a surface; and
a plurality of cavities formed in at least a portion of the surface, each of the cavities having a maximum width, the average maximum width of the cavities being less than 350 μm, the cavities having a density greater than

6000 cavities per square inch, thereby providing a reduced gloss appearance on the surface.

[c19] 19. The polymeric component of claim 18, wherein the surface includes an aesthetic pattern formed therein, the aesthetic pattern being in addition to the cavities.

[c20] 20. The polymeric component of claim 18, wherein the polymeric component is an automotive trim component.